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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,698	09/30/2003	Sandeep K. Gopisetty	ARC920030056US1	7968
70123	7590	07/13/2010		
LEWIS NUNNELLEY Post Office 2428 Corvallis, OR 97339			EXAMINER AUGUSTINE, NICHOLAS	
			ART UNIT	PAPER NUMBER
			2179	
			MAIL DATE	DELIVERY MODE
			07/13/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,698

Applicant(s)

GOPISETTY ET AL.

Examiner

NICHOLAS AUGUSTINE

Art Unit

2179

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date 07/11/08; 3/3/10
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- A. This action is in response to the following communications: BPAI Decision mailed 03/01/2010.
- B. Claims 1-15 remains pending.

In view of newly discovered prior art, PROSECUTION IS HEREBY REOPENED. If applicant wishes to reinstate an appeal after prosecution is reopened, applicant must file a new notice of appeal in compliance with 37 CFR 41.31 and a new appeal brief in compliance with 37 CFR 41.37.

A Technology Center Director or designee has personally approved the REOPENING OF PROSECUTION set forth above by signing below:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Battat et al (US 5,958,012)**, herein referred to as "Battat" *in view of Moore, Joseph et al (US Pub 2003/0200390)*, herein referred to as "Moore" *in further view of Dere, Judy Y. (US Pat. 5,802,286)*, herein referred to as "Dere".

Teaching reference (as for claims 1-15):

Bird, Drew

(<http://www.enterprisestorageforum.com/sans/features/article.php/981191>),

Bird will be used as a teaching reference to show what is known in the art as Bird provides evidence of known elements of a Storage Area Network (SAN), because Bird shows that a SAN is described as:

"Many IT organizations today are scratching their heads debating whether the advantages of implementing a SAN solution justify the associated costs. Others are trying to get a handle on today's storage options and whether SAN is simply Network Attached Storage spelled backwards. In this article, I introduce the basic purpose and function of a SAN and examine its role in modern network environments. I also look at how SANs meet the network storage needs of today's organizations and answer the question, could a SAN be right for you. "

"In very basic terms, a SAN can be anything from two servers on a network accessing a central pool of storage devices to several thousand servers accessing many millions of megabytes of storage. Conceptually, a SAN can be thought of as a separate network of storage devices physically removed from, but still connected to, the network. SANs evolved from the concept of taking storage devices, and therefore storage traffic, off the LAN and creating a separate back-end network designed specifically for data."

"The advantages of SANs are numerous, but perhaps one of the best examples is that of the serverless backup (also commonly referred to as 3rd Party Copying). This system allows a disk storage device to copy data directly to a backup device across the high-speed links of the SAN without any intervention from a server. Data is kept on the SAN, which means the transfer does not pollute the LAN, and the server processing resources are still available to client systems."

Bird teaches known software elements that can be shown in a viewer. Where it will be shown that Battat is an example of a network viewer. Since Battat as modified by Moore views networks and is able to view a SAN then the fundamentals of a SAN would apply to Battat as modified by Moore's viewer.

As for independent claim 1, Battat teaches a network management system to generate perspectives of a network topology (col.4, line 48), the network management system including: a network manager program to monitor a network (col.7, line 61 and col.8, line 5), a network management database linked with the network manager program (col.7, lines 61-63 and fig.1, 102-103), wherein the network management database maintains information identifying devices included within the network and connections between the devices (fig.10 and col.8, line 11; wherein a agent interacts

with the database/ repository to obtain object information; col.11, line 34); a plurality of sensor agents positioned within devices included within the network (104, col.8, lines 11-14 and fig.1), wherein the sensor agents gather information associated with events occurring within the network and provide the gathered information to the network manager for inclusion within the network management database (Col.8, lines 11-14 and fig.1; wherein is depicted of sending events and notifications to the management application); and a network topology viewer linked to the network manager to generate a user requested topology perspective according to data included within the network management database and data associated with a previously requested network topology perspective (col.9, lines 39-41 and col.5, line 25; fig.1 and 6; wherein figure 6 deals with the rendering of the current scene to the display device).

Battat does not expressly disclose the term "SAN" (storage area network), only to suggest that the claimed invention of Battat teaches a program for interaction with a network through use of a network manager and network viewer. Battat further provides evidence that the network being managed can be a SAN but does not specifically state/ label the network as a SAN, for example in col.16, lines 13-30; Battat talks about viewing only a collection of components from the system for the administrator to view such as subnetworks, that gives the admin the ability to view only storage devices. In col.4,lines 15-25 is another example the Battat is concerned with allowing the admin to manage the view to only view "subsystem" and "subpart of a network" without specifically mentioning this is a storage area network (SAN).

In col.5, lines 53-67 provide the objective Battat covers:

"The invention describes in virtual reality terms the hierarchical structure of a network. The present invention includes a hierarchical organization of the various world-wide computer system components, including continents, wide area networks, cities, buildings, subnetworks, segments, computers and peripherals, and their internal hardware, firmware, and software resources. However, another objective of the present invention is to provide a system that does not impose on the user any particular hierarchical model. The present invention allows the use of configuration tools enabling the user to set up any logical structure."

Battat further teaches in col.15, lines 20-30 that the user is able to customize the screen to show a network of devices, such as databases, network cards, disk drives, etc... "storage devices".

It is clear that Battat does not mention the term SAN. It is also clear that Battat provides a network manager and a network viewer for interaction with a network. It is also clear that Battat provides that the type of network(s) that is capable of being interacted with is (can be) one of a SAN as Battat explains the different types of network(s) and configuration options provided to the administrator of Battat's system; thus Battat provides the means to manage and view a SAN (storage area network) as outlined above.

However, in the same field of endeavor **Moore teaches** a viewer viewing weighted graph views of a storage area network (SAN); (par.20-24). Moore is also concerned with the generation of the graphs using an adjacency matrix (par.24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Moore with Battat; this is true because Moore is concerned with providing a viewer to view a graph of a network (par.1). Battat is also concerned with

providing a viewer that is setup to view a network. The combination of Moore into Battat provides that Battat's viewer is capable of viewing storage area networks, since Battat mentions that the viewer can view any hierarchical organization (col.5, lines 53-67: Battat) and Moore describes an organized hierarchical structure (fig.1 and par.16-19: Moore, depicted is a storage area network), thus Moore's organized hierarchical structure can be viewed by Battat's viewer.

Since it is shown that Battat as modified by Moore teaches interaction with a SAN.

Bird is now brought in as a teaching reference to show evidence of known features (known in the art) of a storage area network (SAN); specifically that within a SAN transfers between storage devices can be done without server intervention. *Please note above for the reference teachings of Bird.*

Battat as modified by Moore does not specifically teach said network manager program capable of generating an adjacency matrix.

However in the same field of endeavor **Dere teaches** a network manager program capable of generating an adjacency matrix (col.2, line 56 and col.6, lines 64-67; col.7, lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Dere into Battat as modified by Moore, this is true because Dere teaches a network management tool connects to a network and configures a network (col.4, lines 59-67). Battat also teaches a network management tool used to manage a network (col.4, lines 46-50). Also Moore teaches the use of an adjacency matrix when

viewing a graph of network (par.24: Moore). Dere's logic of network node detection by using adjacency matrix would have been viewed by one of ordinary skill in the art as an alternative added function to Battats system and the combination would provide for the use of an adjacency matrix in Battats system as modified by Moore.

As for dependent claim 2, Battat teaches the system of claim 1 wherein the SAN includes hosts, storage devices and switches (col.11, line 2).

As for dependent claim 3, Battat teaches the system of claim 2 wherein the host comprises a database server or a file server (col.10, line 45).

As for dependent claim 4, Battat teaches the system of claim 1 wherein the topology perspective is generated for all devices within the SAN which are visible to a particular host (fig.1, 2, 11 and col.13, line 64).

As for dependent claim 5, Battat teaches the system of claim 1 wherein the topology perspective is generated for all devices within the SAN which are visible to a particular storage device (col.11, line 1).

As for dependent claim 6, Battat teaches the system of claim 1 wherein a previously requested topology perspective is utilized by the topology viewer in the generation of a new user requested topology perspective (fig.2 and 3).

As for dependent claim 7, Battat teaches the system of claim 6 the topology viewer includes a memory for storing information pertaining to the previously requested topology perspectives (col.10, line 12 and 101,102).

As for dependent claim 8, Battat teaches the system of claim 7 wherein the information pertaining to previously requested topology perspectives includes paths which provide access between devices within the SAN (fig.11; wherein is depicted paths of connections between devices, etc).

As for independent claim 9, Battat teaches a method for generating a perspective of a network topology, comprising: receiving a request to provide a perspective of a network topology (col.8, line 36); analyzing the request at a topology viewer and sending the request to a network management program for adjacent nodes; calculating data paths within the requested perspective which have not been previously calculated (col.17, line 17 and col.18, lines 36 and 51); and generating the requested perspective according to both the previously calculated data paths and the calculated data paths (col.9, line 8; wherein the system is calculating the path of navigation from the user and to what devices show up in the object viewer at the instance of time to which the user is at then to which the calculation of other aspects are added into the provide a smooth navigation within a viewer space/ perspective).

Battat does not expressly disclose the term "SAN" (storage area network), only to suggest that the claimed invention of Battat teaches a program for interaction with a

network through use of a network manager and network viewer. Battat further provides evidence that the network being managed can be a SAN but does not specifically state/label the network as a SAN, for example in col.16, lines 13-30; Battat talks about viewing only a collection of components from the system for the administrator to view such as subnetworks, that gives the admin the ability to view only storage devices. In col.4, lines 15-25 is another example the Battat is concerned with allowing the admin to manage the view to only view "subsystem" and "subpart of a network" without specifically mentioning this is a storage area network (SAN).

In col.5, lines 53-67 provide the objective Battat covers:

"The invention describes in virtual reality terms the hierarchical structure of a network. The present invention includes a hierarchical organization of the various world-wide computer system components, including continents, wide area networks, cities, buildings, subnetworks, segments, computers and peripherals, and their internal hardware, firmware, and software resources. However, another objective of the present invention is to provide a system that does not impose on the user any particular hierarchical model. The present invention allows the use of configuration tools enabling the user to set up any logical structure."

Battat further teaches in col.15, lines 20-30 that the user is able to customize the screen to show a network of devices, such as databases, network cards, disk drives, etc... "storage devices".

It is clear that Battat does not mention the term SAN. It is also clear that Battat provides a network manager and a network viewer for interaction with a network. It is also clear that Battat provides that the type of network(s) that is capable of being interacted with is (can be) one of a SAN as Battat explains the different types of network(s) and

configuration options provided to the administrator of Battat's system; thus Battat provides the means to manage and view a SAN (storage area network) as outlined above.

However, in the same field of endeavor **Moore teaches** a viewer viewing weighted graph views of a storage area network (SAN); (par.20-24). Moore is also concerned with the generation of the graphs using an adjacency matrix (par.24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Moore with Battat; this is true because Moore is concerned with providing a viewer to view a graph of a network (par.1). Battat is also concerned with providing a viewer that is setup to view a network. The combination of Moore into Battat provides that Battat's viewer is capable of viewing storage area networks, since Battat mentions that the viewer can view any hierarchical organization (col.5, lines 53-67: Battat) and Moore describes an organized hierarchical structure (fig.1 and par.16-19: Moore, depicted is a storage area network), thus Moore's organized hierarchical structure can be viewed by Battat's viewer.

Since it is shown that Battat as modified by Moore teaches interaction with a SAN.

Bird is now brought in as a teaching reference to show evidence of known features (known in the art) of a storage area network (SAN); specifically that within a SAN transfers between storage devices can be done without server intervention. *Please note above for the reference teachings of Bird.*

Battat as modified by Moore does not specifically teach said network manager program capable of generating an adjacency matrix. However in the same field of endeavor **Dere teaches** a network manager program capable of generating an adjacency matrix (col.2, line 56 and col.6, lines 64-67; col.7, lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Dere into Battat as modified by Moore, this is true because Dere teaches a network management tool connects to a network and configures a network (col.4, lines 59-67). Battat also teaches a network management tool used to manage a network (col.4, lines 46-50). Also Moore teaches the use of an adjacency matrix when viewing a graph of network (par.24: Moore). Dere's logic of network node detection by using adjacency matrix would have been viewed by one of ordinary skill in the art as an alternative added function to Battat's system and the combination would provide for the use of an adjacency matrix in Battat's system as modified by Moore.

As for dependent claim 10, Battat teaches the method of claim 9 wherein the perspective includes all SAN devices within the SAN topology which are connected to an identified SAN device and all SAN devices which are accessible to the identified SAN device, wherein the identified SAN device is included within the SAN topology (col.11, line 1; wherein the system includes all device relevant and active in a defined area).

As for dependent claim 11, Battat teaches the method of claim 10 wherein the

perspective includes a graphical map of all devices within the SAN topology which are visible to the identified device, connections between all of the devices included within the graphical map (fig.11 and 16; wherein figure 11 shows connection lines between devices and figure 16 shows devices connected as described in the related teachings of Battat).

As for dependent claim 12, Battat teaches the method of claim 10 wherein the identified SAN device includes a host, a storage device and a switch (col.11, line 2).

As for dependent claim 13, Battat teaches the method of claim 12 wherein the host comprises a database server or a file server and the storage devices comprise JBODs and storage controllers (col.10, line 45 and col.11, line 1; wherein the viewer of the system can define any type of network device such as redundant array of inexpensive disk / RAID/ JBOD).

As for independent claim 14, Battat teaches a network management system device including system readable code readable by a server system for generating a perspective of a network topology (fig.1 and col.7, line 60), *comprising: logic means for receiving a request to provide a perspective of a network topology; logic means for analyzing the request at a topology viewer and sending the request to a network management program for adjacent nodes; logic means for calculating data paths within the requested perspective which have not been previously calculated; and logic means for generating the requested perspective according to both the previously calculated*

data paths and the calculated data paths, whereby the perspective includes all network devices within the network topology which are connected to an identified network device and all network devices which are accessible to the identified SAN device, wherein the identified network device is included within the network topology, whereby the network device includes a host, a storage device and a switch (note the analysis of claims 1,9 – 13).

Battat does not expressly disclose the term "SAN" (storage area network), only to suggest that the claimed invention of Battat teaches a program for interaction with a network through use of a network manager and network viewer. Battat further provides evidence that the network being managed can be a SAN but does not specifically state/label the network as a SAN, for example in col.16, lines 13-30; Battat talks about viewing only a collection of components from the system for the administrator to view such as subnetworks, that gives the admin the ability to view only storage devices. In col.4, lines 15-25 is another example the Battat is concerned with allowing the admin to manage the view to only view "subsystem" and "subpart of a network" without specifically mentioning this is a storage area network (SAN).

In col.5, lines 53-67 provide the objective Battat covers:

"The invention describes in virtual reality terms the hierarchical structure of a network. The present invention includes a hierarchical organization of the various world-wide computer system components, including continents, wide area networks, cities, buildings, subnetworks, segments, computers and peripherals, and their internal hardware, firmware, and software resources. However, another objective of the present invention is to provide a system that does

not impose on the user any particular hierarchical model. The present invention allows the use of configuration tools enabling the user to set up any logical structure."

Battat further teaches in col.15, lines 20-30 that the user is able to customize the screen to show a network of devices, such as databases, network cards, disk drives, etc...
"storage devices".

It is clear that Battat does not mention the term SAN. It is also clear that Battat provides a network manager and a network viewer for interaction with a network. It is also clear that Battat provides that the type of network(s) that is capable of being interacted with is (can be) one of a SAN as Battat explains the different types of network(s) and configuration options provided to the administrator of Battat's system; thus Battat provides the means to manage and view a SAN (storage area network) as outlined above.

However, in the same field of endeavor **Moore teaches** a viewer viewing weighted graph views of a storage area network (SAN); (par.20-24). Moore is also concerned with the generation of the graphs using an adjacency matrix (par.24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Moore in to Battat; this is true because Moore is concerned with providing a viewer to view a graph of a network (par.1). Battat is also concerned with providing a viewer that is setup to view a network. The combination of Moore into Battat provides that Battat's viewer is capable of viewing storage area networks, since Battat mentions that the viewer can view any hierarchical organization (col.5, lines 53-67: Battat) and Moore describes an organized hierarchical structure (fig.1 and par.16-19:

Moore, depicted is a storage area network), thus Moore's organized hierarchical structure can be viewed by Battat's viewer.

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As for independent claim 15, Battat teaches a method of updating each of a cache of including perspectives of hosts, devices and switches in a SAN, based on a change to the SAN's configuration or an identification of devices missing from the SAN's configuration (col.8, line 13 and fig. 1-4).

In view of Applicants previous amendment of claims 1, 9 and 14, Examiner anticipates a similar amendment and rejects accordingly.

Battat does not expressly disclose the term "SAN" (storage area network), only to suggest that the claimed invention of Battat teaches a program for interaction with a network through use of a network manager and network viewer. Battat further provides evidence that the network being managed can be a SAN but does not specifically state/label the network as a SAN, for example in col.16, lines 13-30; Battat talks about viewing only a collection of components from the system for the administrator to view such as subnetworks, that gives the admin the ability to view only storage devices. In col.4, lines 15-25 is another example the Battat is concerned with allowing the admin to manage the view to only view "subsystem" and "subpart of a network" without specifically mentioning this is a storage area network (SAN).

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However, in the same field of endeavor **Moore teaches** a viewer viewing weighted graph views of a storage area network (SAN); (par.20-24). Moore is also concerned with the generation of the graphs using an adjacency matrix (par.24).

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Battat) and Moore describes an organized hierarchical structure (fig.1 and par.16-19: Moore, depicted is a storage area network), thus Moore's organized hierarchical structure can be viewed by Battat's viewer.

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alternative added function to Battat's system and the combination would provide for the use of an adjacency matrix in Battat's system as modified by Moore.

(Note:) It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wikipeda

http://en.wikipedia.org/wiki/Storage_area_network#SAN_Best_Practices_and_Lessons_Learned (shows data transfer between devices without sever intervention as known in the art for a SAN).

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Augustine whose telephone number is 571-270-1056 and fax is 571-270-2056. The examiner can normally be reached on Monday - Friday: 9:30am- 5:00pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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